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REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 1-39 are pending and have been rejected.

Claims 1, 15, 19, 27, 32 and 36 have been amended. The amendments to the claims add no new matter. Support for the amendments can be found in the Applicants' specification, for example, in paragraphs [0067]-[0071], [0075], [0081], [0078], [0088], [0091]-[0096], [0101]-[0111], [0125]-[0126], [0136]-[0144], [0146]-[0151], [0159], [00165] and [0183] of the application publication, and in other places throughout the specification.

Specification

The Examiner commented on and provided suggested amendments to the specification, which has been amended. The amendments to the specification are editorial in nature and do not introduce new matter.

CLAIM REJECTIONS

35 U.S.C. § 112 Rejections

In the Office Action, the Examiner rejected claim 12 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner contended that it is not clear from the description what "an aspect able to affect an element from a group" means.

Applicants respectfully traverse the Examiner's allegation, that "an aspect able to affect an element from a group", as recited in claim 12, is not clear and that "[t]he only related description is in paragraph [0029]".

The Applicants' specification recites in paragraph [0133] of the application publication "The method may allow definition of DSL elements, for example, information, data type, term, aspect, relationship, constraint, action, or the like, as well as refinement of imported language resources and their linking with newly-created entities".

In paragraphs [0135] and [0136] of the application publication, the specification recites:

As indicated at box 620, the method may include, for example, defining language term, e.g., a main language entity reflecting a domain-specific semantic unit ("atom"). Language term definition may include, for example, defining a name, mapping to a UML meta-class (e.g., UML element type), and defining a set of custom properties. A term may inherit from other terms and may contain aspects. Terms, as defined in a language, may constitute the main building blocks at modeling time. In one embodiment, one or more aspects (e.g., containers of structural and/or behavioral features) may be defined and/or may be aggregated into one or more terms; an aspect may inherit from one or more other aspects.

As indicated at box 625, the method may include, for example, defining aspects able to affect a language term, a property of a language term, a relationship between two or more language terms, or the like. (Emphasis added)

In paragraph [0138] of the application publication, the specification recites:

As indicated at box 635, the method may include, for example, defining aspects, e.g. containers of structural and behavioral features, which may be aggregated into terms. An aspect may inherit from one or more other aspects. (Emphasis added)

Accordingly, as described in the specification, "aspects" and "terms" are elements of the Domain Specific Language (DSL), which is a language usable in defining and modulating the behavior of the modeling tool. What is modified by the aspects are structural and/or behavioral features of the language terms which are usable in building a model. For example, an Aspect of development project management may include version, priority, cost, etc., and

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may impact Terms such as Component, Business Process, Data Entity, and User Action and other terms which are usable in a modeling process, for example, in Business Modeling.

As defined in claim 12, the aspect is “able to affect an element selected from a group consisting of: said at least one language term, a property of said at least one language term, and a relationship between said at least one language term and another language term”. The claim element “said at least one language term” has an antecedent basis in claim 9 which recites “wherein defining said domain-specific language comprises: ...defining at least one language term of said domain-specific language”. The claim element has an antecedent basis in claim 1 which recites “defining a domain-specific language usable in defining a modeling environment and having a dynamic component and a static component, wherein behavior definitions of said static component are modifiable by said dynamic component” (emphasis added).

Therefore, Applicants respectfully assert that claim 12 is clear and definite and supported by the specification, and is proper under 35 U.S.C. § 112, second paragraph, and request that the examiner withdraw this rejection.

In the Office Action, the Examiner rejected claims 15 and 27 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner contended that it is not clear from the description what “a recommended modeling process” and “a mentor modeling definition” means.

Applicants respectfully traverse the Examiner’s allegation, that “a recommended modeling route” and “a mentor modeling definition”, as recited in claims 15 and 27, is not clear and that “[t]he only related description is in paragraph [0032]”.

Relevant description and support for the claim element can be found in the application publication, for example, in paragraphs [0082], [0126], [0140], [0144], [0146], [0159], and in other places in the specification.

In paragraph [0082] of the application publication, the specification recites:

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Process mentor 261 may include, for example, a universal, metadata driven component able to incarnate modeling flow definitions, as defined in the DSL, at modeling time. The process mentor 261 may provide a user (e.g., a modeler) with, for example, step-by-step wizards, next activity prompts, estimation of modeling progress, phase-sensitive helps, methodology guiding, or other functions in accordance with a process definition within the available DSL or DSLs.

In paragraph [0126] of the application publication, the specification recites:

As indicated at box 530, the method may optionally include, for example, performing a customized mentor modeling process. In some embodiments, the language under construction may optionally include a process flow definition, which may describe main modeling activities and corresponding objects of the language terms (e.g., modeling artifacts). Such definition may be performed, for example, in relation to a standard activity diagram, which may optionally include embedded sub-diagrams and associated objects. To achieve a desired level of precision, special stereotypes for activities, objects and transitions may be defined and/or used, thereby providing additional fields or properties such as, for example, mandatory requirements, comments, links to particular help topics, or the like. In some embodiments, such definitions may allow customized process of mentoring, for example, using step-by-step wizards, next-step prompts (e.g., representing an implementation of a pre-defined modeling workflow), estimation of modeling progress, working point sensitive help, or the like. Reflecting these definitions, the mentoring process may guide the modeling process in substantially all its phases and activities, e.g. in accordance with a pre-defined development standard or a modified development standard. It is noted that in some embodiments, a language builder itself may operate based on language definitions of a pre-defined “language definition” language, and therefore the language builder may benefit from inherent capabilities and types of support, including, for example, meta-modeling time mentoring. In one embodiment, a mentoring process of language building may affect substantially all activities involved in the language building process. (Emphasis added)

In paragraph [0146] of the application publication, the specification recites “a process mentor 708 able to ensure that a recommended meta-modeling process is executed (e.g., as defined in a pre-built meta-modeling language)”.

Therefore, the limitation “generating a recommended modeling process to be used during creation of said one or more elements of said model in accordance with a mentor modeling definition of said domain-specific language”, as recited in amended claim 15 is clear and definite and supported by the specification. Claim 27 is similarly clear, definite and

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supported. Accordingly, Applicants respectfully assert that amended claims 15 and 27 are proper under 35 U.S.C. § 112, second paragraph, and request that the examiner withdraw this rejection.

In the Office Action, the Examiner rejected claim 32 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner contended that it is not clear from the description what does “a process mentor module to guide said runtime process” mean.

Claim 32 has been amended to recite “wherein said language runtime module comprises a process mentor module to ensure that a recommended modeling process is executed in accordance with a process definition of said domain-specific language.”

In paragraphs paragraph [0159] of the application publication, the specification recites “the method may include, for example, performing customized modeling process mentoring, e.g., using step-by-step wizards, next-step prompts, estimation of modeling progress, working point sensitive helps, or the like. The mentoring may affect or may be associated with, for example, substantially all activities involved in the modeling process”.

In paragraphs paragraph [0165] of the application publication, the specification recites “Language runtime 900 may include one or more modules, software components, and/or hardware components, for example: ...a process mentor 908 to ensure that a recommended modeling process is executed (e.g., as defined in the DSL), the process including, for example, checking model status, detecting conflicts, providing warning messages about detected conflicts, suggesting activities to be performed, estimating percentage of tasks executed, estimating progress, or the like”.

Accordingly, Applicants respectfully assert that amended claim 32 is proper under 35 U.S.C. § 112, second paragraph, and request that the examiner withdraw this rejection.

35 U.S.C. § 101 Rejections

In the Office Action, the Examiner rejected claims 1-18 under 35 U.S.C. § 101.

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Independent claim 1 as amended is directed to statutory subject matter and is proper under 35 U.S.C. § 101.

Claims 2-8 depend from claim 1 and therefore are likewise proper under 35 U.S.C. § 101.

Accordingly, Applicants respectfully request that the rejection of claims 1-18 under 35 USC 101 be withdrawn.

In the Office Action, the Examiner rejected claims 19-35 under 35 U.S.C. § 101.

Independent claim 19 as amended is directed to statutory subject matter and is proper under 35 U.S.C. § 101.

Claims 20-35 depend from claim 19 and therefore are likewise proper under 35 U.S.C. § 101.

Accordingly, Applicants respectfully request that the rejection of claims 19-35 under 35 USC 101 be withdrawn.

35 U.S.C. § 102 Rejection

In the Office Action, the Examiner rejected claims 1-6, 8-21, 23-32 and 34-39 under 35 U.S.C. § 102(b), as being anticipated by Freed at el. (US Patent No. 6,269,473), hereinafter referred to as "Freed". Applicants respectfully traverse this rejection in view of the remarks that follow.

Freed discloses a "software modeling environment ... that supports the development and execution of software that can be dynamically configured" (Abstract).

Therefore, Freed discloses the dynamic impact of models on software behavior. Embodiments in the present application, however, relate to the dynamic impact of the Domain-Specific Languages (DSLs), which modulate the operation of application modeling tools, on the modeling tool itself.

This difference is crucial for the success of modeling within organizations. At Freed's time the accepted paradigm for application development was one of implementing one unified modeling language, UML, for all sorts of software (and system) applications.

That paradigm was understood to be less than optimal. Therefore, The present application in some embodiments proposes customizing UML and UML tools by DSLs which encompass semantics for both static and dynamic modulation and extension.

Freed in his figures specifies his customization parts using UML. However, Freed does not discuss UML and UML tools customizations. Freed uses a static DSL (UML profile) to define a modeling environment for developing a dynamic product. Embodiments of the present application, however, pertain to a dynamic and static DSL for defining and modifying a modeling environment, which is one level above Freed's area of interest.

For the Examiner's reference, the different levels of model architecture are explained in the OMG's Model Driven Architecture (MDA) standard (<http://www.omg.org/mda/>). This comprises four levels relating to an application:

M0 – these entities are the runtime domain objects. That is, the concrete things from the domain represented in the application. These are instances of M1 entities.

M1 - these are the entities in the application model (in this case, created using UML notation). The model elements are instances of M2 entities.

M2 – these are the entities needed for language definition, in this case the elements needed to create UML. The language definition elements are instances of M3 entities.

M3 – these are the entities needed to create any modeling language. The UML language is created using M3 elements. The MDA standard has the Meta Object Facility (MOF) at level M3 and this is self-referencing so that no further levels are required.

While Freed discloses a software modeling environment (M1) that supports the development and execution of software (M0) that can be dynamically configured, the Applicant's specification discusses the dynamic impact of DSLs (M2) on modeling time tools (M1).

Therefore, the disclosure of Freed is not relevant to the present application since it addresses a different level of model architecture.

Accordingly, Freed does not teach or suggest:

defining, by a language builder module executed by a processor of a language builder station, a domain-specific language usable in defining a modeling environment and having a dynamic component and a static component, wherein behavior definitions of said static component are modifiable by said dynamic component; and

applying on a modeling environment, by a language runtime module executed by a processor of a modeling station, modification by said dynamic component of behavior definitions of said static component, so as to change definitions of modeling process.

as recited in independent claim 1, as amended.

For the same reasons, Freed does not teach or suggest:

a language builder station for executing a language builder module to define a domain-specific language usable in defining a modeling environment and having a dynamic component and a static component, wherein behavior definitions of said static component are modifiable by said dynamic component; and

a modeling station for executing a language runtime module to apply on a modeling environment modification by said dynamic component of behavior definitions of said static component so as to change definitions of modeling process,

as recited in independent claim 19, as amended.

Further for the same reasons, Freed does not teach or suggest:

A machine-readable medium having stored thereon instructions that, when executed by a machine, result in:

defining a domain-specific language usable in defining a modeling environment and having a dynamic component and a static component, wherein behavior definitions of said static component are modifiable by said dynamic component; and

applying on a modeling environment modification by said dynamic component of behavior definitions of said static component so as to change definitions of modeling process,

as recited in independent claim 36, as amended.

Therefore, independent claims 1, 19 and 36 are allowable.

Each of claims 2-6, 8-18, 20, 21, 23-32, 34, 35 and 37-39 depends from one of claims 1, 19 and 36. At least for this reason, claims 2-6, 8-18, 20, 21, 23-32, 34, 35 and 37-39 are likewise allowable.

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Accordingly, Applicants respectfully request that the Examiner withdraw the rejection to claims 1-6, 8-21, 23-32 and 34-39 under 35 U.S.C. § 102(b).

35 U.S.C. § 103 Rejection

In the Office Action, the Examiner rejected claims 7, 22 and 33 under 35 U.S.C. § 103(a), as being unpatentable over Freed. Applicants respectfully traverse this rejection in view of the remarks that follow.

Each of claims 7, 22 and 33 depends from one of claims 1 and 19. Therefore, the arguments set forth above with reference to Freed are valid also here. At least for this reason, claims 7, 22 and 33 are likewise allowable.

Accordingly, Applicants respectfully request that the Examiner withdraw the rejection to claims 7, 22 and 33 under 35 U.S.C. § 103(a).

Conclusion

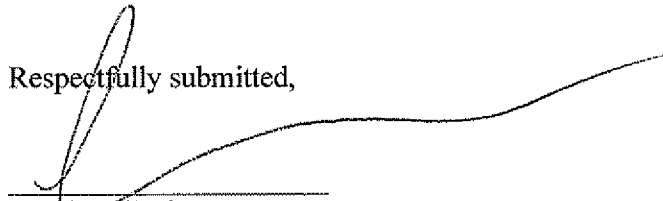
In view of the foregoing amendments and remarks, Applicants assert that the pending claims are allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

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Please charge any fees associated with this paper to deposit account No. 50-3355.

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